Title:

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FOAM-IN-PLACE APPARATUS, AND METHODS OF USE AND MANUFACTURE

IN THE CLAIMS

Please amend the claims as follows:

- (Currently Amended) An apparatus comprising: 1.
- a foam containment unit adapted to contain a foam produced from a combination of at least two foam precursor components;
- a foam precursor storage unit, which includes a first compartment adapted to hold a first foam precursor component, and a second compartment adapted to hold a second foam precursor component until the first foam precursor component and the second foam precursor component are released; and
- a foam precursor heating unit, located in contact with and in thermal proximity to the foam precursor storage unit and operable to provide thermal energy for increasing a temperature of one or more of the at least two foam precursor components.
- (Original) The apparatus of claim 1, wherein the foam precursor storage unit and the 2. foam precursor heating unit are located within an interior cavity of the foam containment unit.
- (Original) The apparatus of claim 1, wherein the foam precursor storage unit and the 3. foam precursor heating unit are located outside the foam containment unit.
- (Original) The apparatus of claim 3, wherein the apparatus further comprises a delivery 4. mechanism adapted to deliver the first foam precursor component and the second foam precursor component to an interior cavity of the foam containment unit.
- (Original) The apparatus of claim 1, further comprising: 5. the first foam precursor component, which includes diisocyanate; and the second foam precursor component, which includes a polyol.

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- 6. (Original) The apparatus of claim 1, wherein the foam precursor storage unit includes a top portion and a bottom portion formed from a flexible material.
- 7. (Original) The apparatus of claim 6, further comprising a mixing chamber adapted to receive and mix the first foam precursor and the second foam precursor.
- 8. (Original) The apparatus of claim 1, wherein the foam precursor storage unit includes: a top portion formed from a flexible material; and a bottom portion formed from a substantially rigid material.
- 9. (Original) The apparatus of claim 8, further comprising a mixing chamber adapted to receive and mix the first foam precursor and the second foam precursor.
- 10. (Original) The apparatus of claim 1, wherein the foam precursor storage unit includes: a syringe having a first compartment adapted to contain the first foam precursor component, and a second compartment adapted to contain the second foam precursor component; and
 - a plunger for extruding the first foam precursor and the second foam precursor.
- 11. (Original) The apparatus of claim 10, further comprising a mixing chamber adapted to receive and mix the first foam precursor and the second foam precursor.
- 12. (Original) The apparatus of claim 1, wherein the foam precursor heating unit comprises:
 a first compartment adapted to contain a first heat-producing component; and
 a phase change trigger mechanism located in proximity to the first compartment, which is
 adapted to agitate the first heat-producing component in response to a triggering event, and
 wherein agitation of the first heat-producing component results in an exothermic reaction.

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13. (Original) The apparatus of claim 12, further comprising the first heat-producing component, wherein the first heat-producing component includes a supercooled liquid.

- 14. (Original) The apparatus of claim 12, wherein the phase change trigger mechanism includes a physical agitation device.
- 15. (Original) The apparatus of claim 1, wherein the foam precursor heating unit comprises:

 a first compartment adapted to contain a first heat precursor component;

 a second compartment adapted to contain a second heat precursor component; and

 a mechanism that enables the first heat precursor component and the second heat

 precursor component to combine in response to a triggering event, and wherein a combination of the first heat precursor component and the second heat precursor component produces an exothermic reaction.
- 16. (Original) The apparatus of claim 15, wherein the mechanism includes a frangible barrier.
- 17. (Original) The apparatus of claim 15, wherein the mechanism includes a separate containment unit.
- 18. (Original) The apparatus of claim 15, further comprising:
 the first heat precursor component, which includes a supercooled liquid; and
 the second heat precursor component, which includes a crystallized counterpart of the
 supercooled liquid.
- 19. (Original) The apparatus of claim 15, further comprising:
 the first heat precursor component, which includes a fuel; and
 the second heat precursor component, which includes an oxidizer.

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20. (Original) The apparatus of claim 1, wherein the foam precursor heating unit comprises: a heating element.

21. (Original) The apparatus of claim 20, wherein the foam precursor heating unit further comprises:

an electrical energy supply device; and an activation mechanism.

22. (Original) The apparatus of claim 21, wherein:

the heating element includes a coil;

the electrical energy supply device includes a battery; and

the activation mechanism includes a switch.

23. (Currently Amended) An apparatus comprising:

a foam containment unit adapted to contain a foam produced from a combination of at least two foam precursor components;

a foam precursor storage unit, which includes a first compartment adapted to hold a first foam precursor component, and a second compartment adapted to hold a second foam precursor component until the first foam precursor component and the second foam precursor component are released; and

a foam precursor heating unit, located in contact with and in thermal proximity to the foam precursor storage unit and operable to provide thermal energy for increasing a temperature of one or more of the at least two foam precursor components, wherein the foam precursor heating unit includes

a first compartment adapted to contain a first heat-producing component, and

a phase change trigger mechanism located in proximity to the first compartment, which is adapted to agitate the first heat-producing component in response to a triggering event, and wherein agitation of the first heat-producing component results in an exothermic reaction.

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- 24. (Original) The apparatus of claim 23, further comprising the first heat-producing component, wherein the first heat-producing component includes a supercooled liquid.
- 25. (Original) The apparatus of claim 23, wherein the phase change trigger mechanism includes a physical agitation device.
- 26. (Currently Amended) An apparatus comprising:
- a foam containment unit adapted to contain a foam produced from a combination of at least two foam precursor components;
- a foam precursor storage unit, which includes a first compartment adapted to hold a first foam precursor component, and a second compartment adapted to hold a second foam precursor component until the first foam precursor component and the second foam precursor component are released; and
- a foam precursor heating unit, located in <u>contact with and in</u> thermal proximity to the foam precursor storage unit and operable to provide thermal energy for increasing a temperature of one or more of the at least two foam precursor components, wherein the foam precursor heating unit includes
 - a first compartment adapted to contain a first heat precursor component, a second compartment adapted to contain a second heat precursor component, and a mechanism that enables the first heat precursor component and the second heat precursor component to combine in response to a triggering event, and wherein a combination of the first heat precursor component and the second heat precursor component produces an exothermic reaction.
- 27. (Original) The apparatus of claim 26, further comprising:
 the first heat precursor component, which includes a supercooled liquid; and
 the second heat precursor component, which includes a crystallized counterpart of the
 supercooled liquid.

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- 28. (Original) The apparatus of claim 26, further comprising:
 the first heat precursor component, which includes a fuel; and
 the second heat precursor component, which includes an oxidizer.
- 29. (Currently Amended) An apparatus comprising:
- a foam containment unit adapted to contain a foam produced from a combination of at least two foam precursor components;
- a foam precursor storage unit, which includes a first compartment adapted to hold a first foam precursor component, and a second compartment adapted to hold a second foam precursor component until the first foam precursor component and the second foam precursor component are released; and
- a foam precursor heating unit, located in contact with and in thermal proximity to the foam precursor storage unit and operable to provide thermal energy for increasing a temperature of one or more of the at least two foam precursor components, wherein the foam precursor heating unit includes a heating element.
- 30. (Original) The apparatus of claim 29, wherein the foam precursor heating unit further comprises:

an electrical energy supply device; and an activation mechanism.

31. (Original) The apparatus of claim 30, wherein:

the heating element includes a coil;

the electrical energy supply device includes a battery; and

the activation mechanism includes a switch.